SEARCHING FOR PROGRAMS AND UPDATING VIEWER PREFERENCES
WITH REFERENCE TO PROGRAM SEGMENT CHARACTERISTICS
Inventors: Gil Gavriel DUDKIEWICZ et al.
Attorney: Ronald Coslick – 051448-0211
FOLEY & LARDNER – (310) 277-2223
Sheet 1 of 19

Business Day 208 NEWS 8:24 pm			
Mon 9/22 8:00 pm - 9:00 pm			
Today's business news and information. CEO Jeffrey Jones; travel industry			
Mon 9/22	8:00 pm	8:30 pm	9:00 pm
204 SPRT	Sports Central		NFL Preview
208 NEWS	Business Day		News
209 HOME	Design at Home		Decorating
243 LA 13	Giants @ Dodgers		Postgame Show
254 LA 24	Business Report	Today in Politics	Roundtable
258 LA 28	Nexus		Natural World
280 LA 50	Auto World	Sound Check	The Movie Critics
288 LA 58	Collector's Hour		Investigation

Figure 1
Prior Art

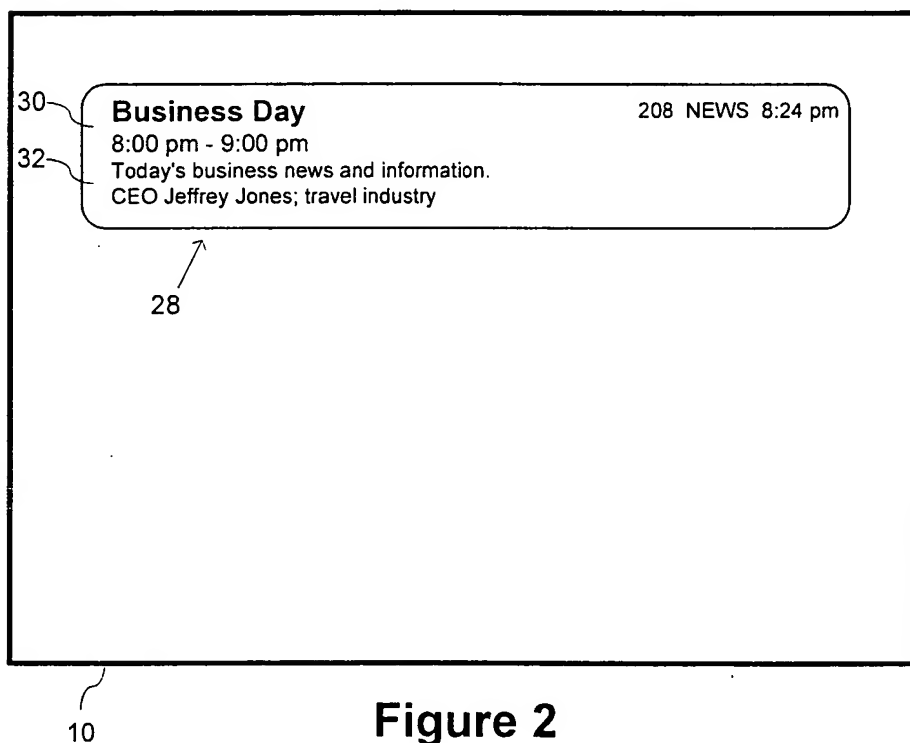| Business Day 208 NEWS 8:24 pm |
|---|
| 8:00 pm - 9:00 pm |
| Today's business news and information. CEO Jeffrey Jones; travel industry |

Figure 2
Prior Art

SEARCHING FOR PROGRAMS AND UPDATING VIEWER PREFERENCES
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Program identifier:	762645819.0405

Program title:	Business Day

Type:	Series

Genre:	News

Series description:	Today's business news and information

Program description:	CEO Jeffrey Jones; travel industry

Channel:	News Network

Date:	09/22/2003

Time:	8:00 pm

Duration:	60 min

Rating:	General

Language:	English

Alternate language:	Spanish

Closed caption:	Yes

Audio type:	Stereo

Conventional program metadata

Figure 3
Prior Art

SEARCHING FOR PROGRAMS AND UPDATING VIEWER PREFERENCES
WITH REFERENCE TO PROGRAM SEGMENT CHARACTERISTICS
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Sheet 3 of 19

Program identifier:	762645819.0405
Program title:	Business Day
Program description:	Today's business news and information
Channel:	News Network
Date:	09/22/2003
Time:	8:00 pm
Duration:	60 min
Rating:	General
Language:	English
Alternate language:	Spanish
Closed caption:	Yes
Audio type:	Stereo
Categories:	news,8; business,9; investment,8; ...
Keywords:	Federal Reserve; interest rates; ...
Actors:	
Director:	

Program metadata

Program identifier:	762645819.0405
Program title:	Business Day
Segment identifier:	762645819.0405.0004
Segment title:	Earnings reports
Segment description:	IBM, Dell, Cisco; analyst comments
Channel:	News Network
Date:	09/22/2003
Time:	8:22 pm
Duration:	8 min
Rating:	General
Language:	English
Alternate language:	Spanish
Closed caption:	Yes
Audio type:	Stereo
Categories:	news,8; business,9; earnings,10; technology,7; ...
Keywords:	IBM; Dell; Cisco; analyst; ...
Actors:	
Director:	

Segment metadata

Figure 4

SEARCHING FOR PROGRAMS AND UPDATING VIEWER PREFERENCES
WITH REFERENCE TO PROGRAM SEGMENT CHARACTERISTICS
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Figure 5

SEARCHING FOR PROGRAMS AND UPDATING VIEWER PREFERENCES
WITH REFERENCE TO PROGRAM SEGMENT CHARACTERISTICS
Inventors: Gil Gavriel DUDKIEWICZ et al.
Attorney: Ronald Coslick – 051448-0211
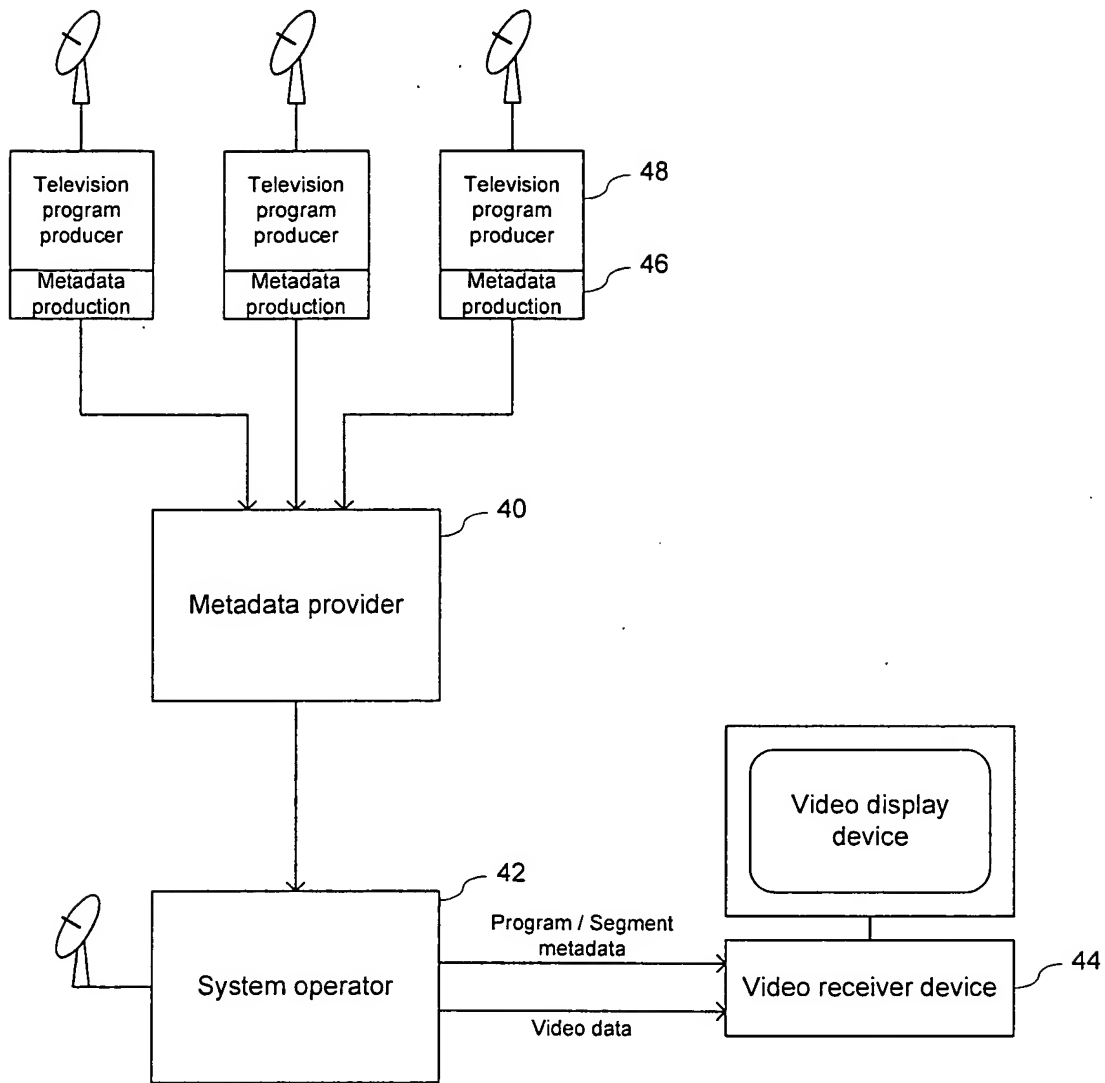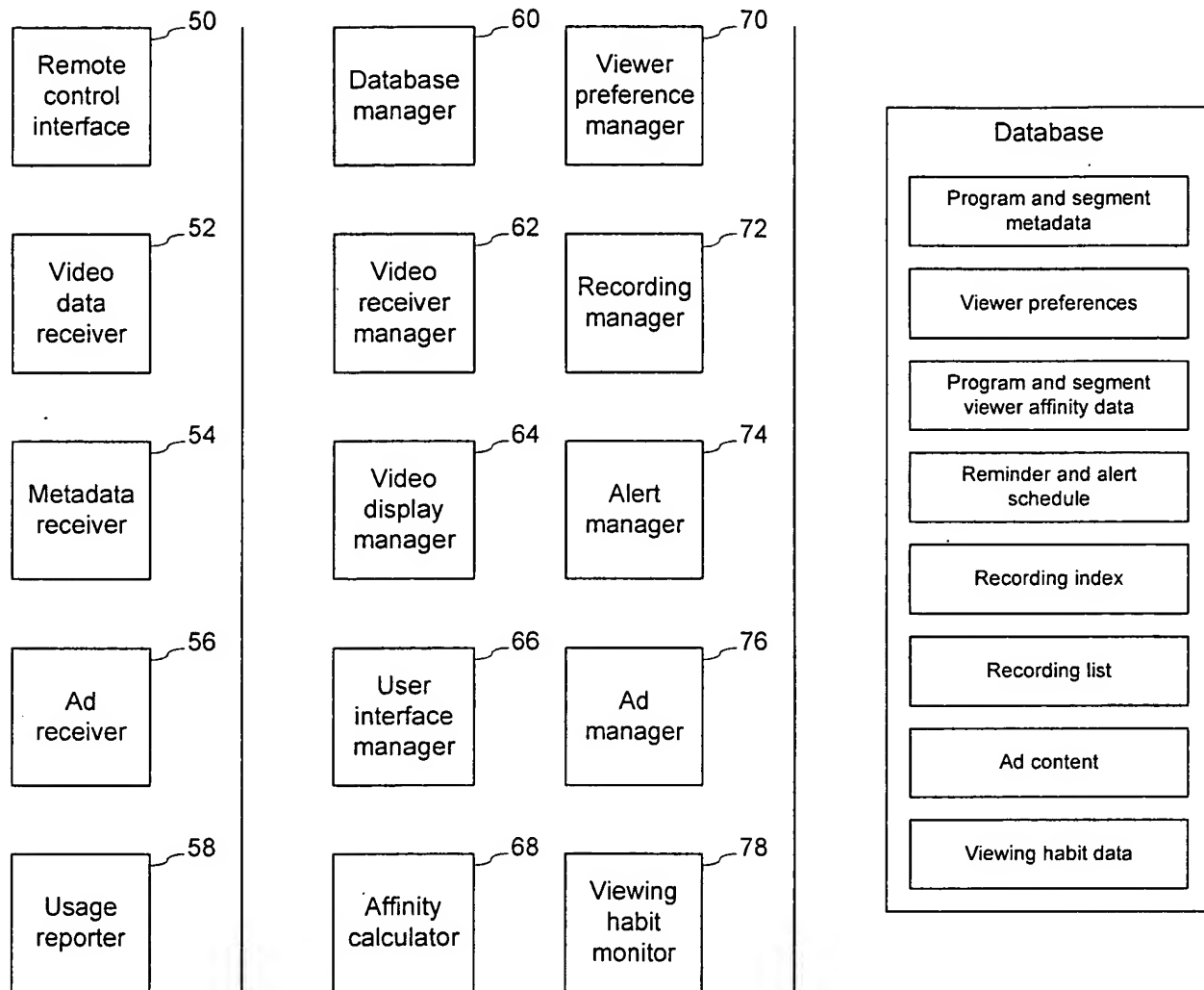FOLEY & LARDNER – (310) 277-2223
Sheet 5 of 19

50 Remote control interface	**60** Database manager	**70** Viewer preference manager
52 Video data receiver	**62** Video receiver manager	**72** Recording manager
54 Metadata receiver	**64** Video display manager	**74** Alert manager
56 Ad receiver	**66** User interface manager	**76** Ad manager
58 Usage reporter	**68** Affinity calculator	**78** Viewing habit monitor

Database

- Program and segment metadata
- Viewer preferences
- Program and segment viewer affinity data
- Reminder and alert schedule
- Recording index
- Recording list
- Ad content
- Viewing habit data

Figure 6

SEARCHING FOR PROGRAMS AND UPDATING VIEWER PREFERENCES
WITH REFERENCE TO PROGRAM SEGMENT CHARACTERISTICS
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User Command

Device Response

Display guide

- Retrieve metadata objects within a given time and channel range
- Assemble and display guide:
  - form program / segment grid
  - display cursor in current program / segment in grid
  - display program description in program window
  - display segment description in segment window

Move cursor

- Retrieve additional metadata objects and update grid, if necessary
- Display cursor in new program/segment in grid
- Update contents of program and segment windows

Select program or segment

- If the cursor is located on a current program or segment, tune to the channel of the program or segment
- If the cursor is on a future program or segment:
  - if the cursor is on a segment, display option to remind for whole program or segment only, and receive selection
  - schedule reminder for segment or program

Record

- If the cursor is on a current program or segment
  - if the cursor is on a segment, display option to record whole program or segment only and receive selection
  - begin recording
- If the cursor is on a future program or segment:
  - if the cursor is on a segment, display option to record whole program or segment only and receive selection
  - schedule recording
- If the cursor is on a program or segment has already aired and that is buffered
  - if the cursor is on a segment and the whole program is buffered, display option to store the whole program or segment only and receive selection
  - store whole program or segment as recorded content

Figure 7a

SEARCHING FOR PROGRAMS AND UPDATING VIEWER PREFERENCES
WITH REFERENCE TO PROGRAM SEGMENT CHARACTERISTICS
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User Command

Device Response

Filter

- Present user interface for selecting filtering criteria
- Receive filtering criteria
- Retrieve metadata objects based on filtering criteria
- Assemble and display filtered guide

Find more like this

- Retrieve program and segment metadata having categories, keywords, actors or directors in common with a program or segment on which the cursor is located
- Display information about the retrieved programs and segments

OR

- Display user interface showing categories, keywords, actors and directors of the program or segment on which the cursor is located
- Receive input specifying which categories, keywords, actors and directors are of interest
- Retrieve program and segment metadata having the specified categories, keywords, actors or directors
- Display information about the retrieved programs and segments

Update preferences

- Update viewer preferences to reflect approval or disapproval of categories, keywords, actors or directors of a program or segment on which the cursor is located

OR

- Display user interface showing categories, keywords, actors and directors of the program or segment on which the cursor is located
- Receive input specifying which categories, keywords, actors and directors are approved or disapproved
- Update viewer preferences to reflect approval or disapproval of specified categories, keywords, actors or directors

Figure 7b

SEARCHING FOR PROGRAMS AND UPDATING VIEWER PREFERENCES
WITH REFERENCE TO PROGRAM SEGMENT CHARACTERISTICS
Inventors: Gil Gavriel DUDKIEWICZ et al.
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Business Day: Today's business news and information. Mon 9/22 8:00 pm - 9:00 pm		8:27 pm Ch 208		88
Segment: Earnings Reports: IBM, Dell, Cisco; analyst comments Start: 8:22 Duration: 8 min				90 86

Mon 9/22	8:00 pm	8:30 pm	9:00 pm	
204 SPRT	Sports Central		NFL Preview	
208 NEWS	Business Day		News	
209 HOME	Design at Home		Decorating	
243 LA 13	Giants @ Dodgers		Postgame Show	80
254 LA 24	Business Report	Today in Politics	Roundtable	
258 LA 28	Nexus		Natural World	
280 LA 50	Auto World	Sound Check	The Movie Critics	
288 LA 58	Collector's Hour		Investigation	

84

82

Figure 8a

Business Day: Today's business news and information. Mon 9/22 8:00 pm - 9:00 pm		8:27 pm Ch 208		88
Segment: CEO Interview: Jeffrey Jones of Synthesco Start: 8:30 Duration: 16 min				90 86

Mon 9/22	8:00 pm	8:30 pm	9:00 pm	
204 SPRT	Sports Central		NFL Preview	
208 NEWS	Business Day		News	
209 HOME	Design at Home		Decorating	
243 LA 13	Giants @ Dodgers		Postgame Show	80
254 LA 24	Business Report	Today in Politics	Roundtable	
258 LA 28	Nexus		Natural World	
280 LA 50	Auto World	Sound Check	The Movie Critics	
288 LA 58	Collector's Hour		Investigation	

84

82

Figure 8b

SEARCHING FOR PROGRAMS AND UPDATING VIEWER PREFERENCES
WITH REFERENCE TO PROGRAM SEGMENT CHARACTERISTICS
Inventors: Gil Gavriel DUDKIEWICZ et al.
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Business Day: Today's business news and information.   8:27 pm Ch 208   — 88
Mon 9/22 8:00 pm - 9:00 pm

Segment: Earnings Reports: IBM, Dell, Cisco; analyst comments   — 90
Start: 8:22
Duration: 8 min   — 86

Mon 9/22	8:00 pm	8:30 pm	9:00 pm
204 SPRT	Sports Central		NFL Preview
208 NEWS	Business Day		News
			← 92
209 HOME	Design at Home		Decorating
243 LA 13	Giants @ Dodgers		Postgame Show
254 LA 24	Business Report	Today in Politics	Roundtable
258 LA 28	Nexus		Natural World
280 LA 50	Auto World	Sound Check	The Movie Critics
288 LA 58	Collector's Hour		Investigation

80

84

82

Figure 9a

Business Day: Today's business news and information.   8:27 pm Ch 208   — 88
Mon 9/22 8:00 pm - 9:00 pm

Segment: CEO Interview: Jeffrey Jones of Synthesco   — 90
Start: 8:30
Duration: 16 min   — 86

Mon 9/22	8:00 pm	8:30 pm	9:00 pm
204 SPRT	Sports Central		NFL Preview
208 NEWS	Business Day		News
			← 92
209 HOME	Design at Home		Decorating
243 LA 13	Giants @ Dodgers		Postgame Show
254 LA 24	Business Report	Today in Politics	Roundtable
258 LA 28	Nexus		Natural World
280 LA 50	Auto World	Sound Check	The Movie Critics
288 LA 58	Collector's Hour		Investigation

80

84

82

Figure 9b

SEARCHING FOR PROGRAMS AND UPDATING VIEWER PREFERENCES
WITH REFERENCE TO PROGRAM SEGMENT CHARACTERISTICS
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Business Day: Today's business news and information.　8:27 pm　Ch 208　— 88
Mon 9/22 8:00 pm - 9:00 pm

Segment: Earnings Reports: IBM, Dell, Cisco; analyst comments　— 90

Start: 8:22
Duration: 8 min　◻️◻️◻️◼️◻️◻️◻️◻️ ←— 94　— 86

Mon 9/22	8:00 pm	8:30 pm	9:00 pm
204 SPRT	Sports Central		NFL Preview
208 NEWS	Business Day		News
209 HOME	Design at Home		Decorating
243 LA 13	Giants @ Dodgers		Postgame Show
254 LA 24	Business Report	Today in Politics	Roundtable
258 LA 28	Nexus		Natural World
280 LA 50	Auto World	Sound Check	The Movie Critics
288 LA 58	Collector's Hour		Investigation

84
80
82

Figure 10a

Business Day: Today's business news and information.　8:27 pm　Ch 208　— 88
Mon 9/22 8:00 pm - 9:00 pm

Segment: CEO Interview: Jeffrey Jones of Synthesco　— 90

Start: 8:30
Duration: 16 min　◻️◻️◼️◻️◻️◻️◻️ ←— 94　— 86

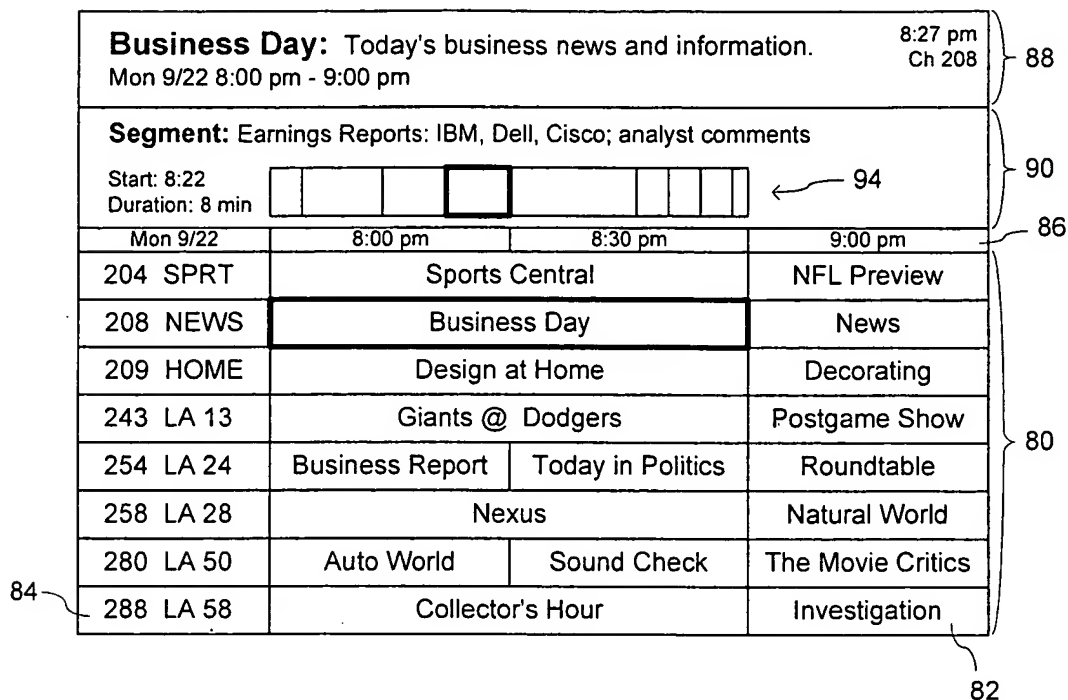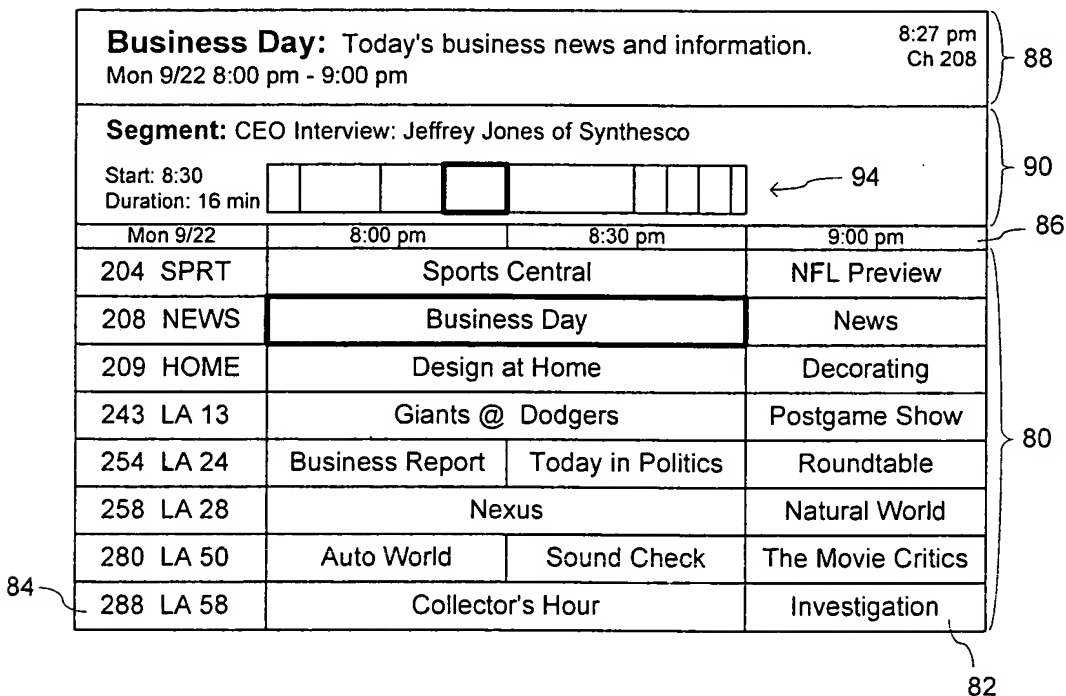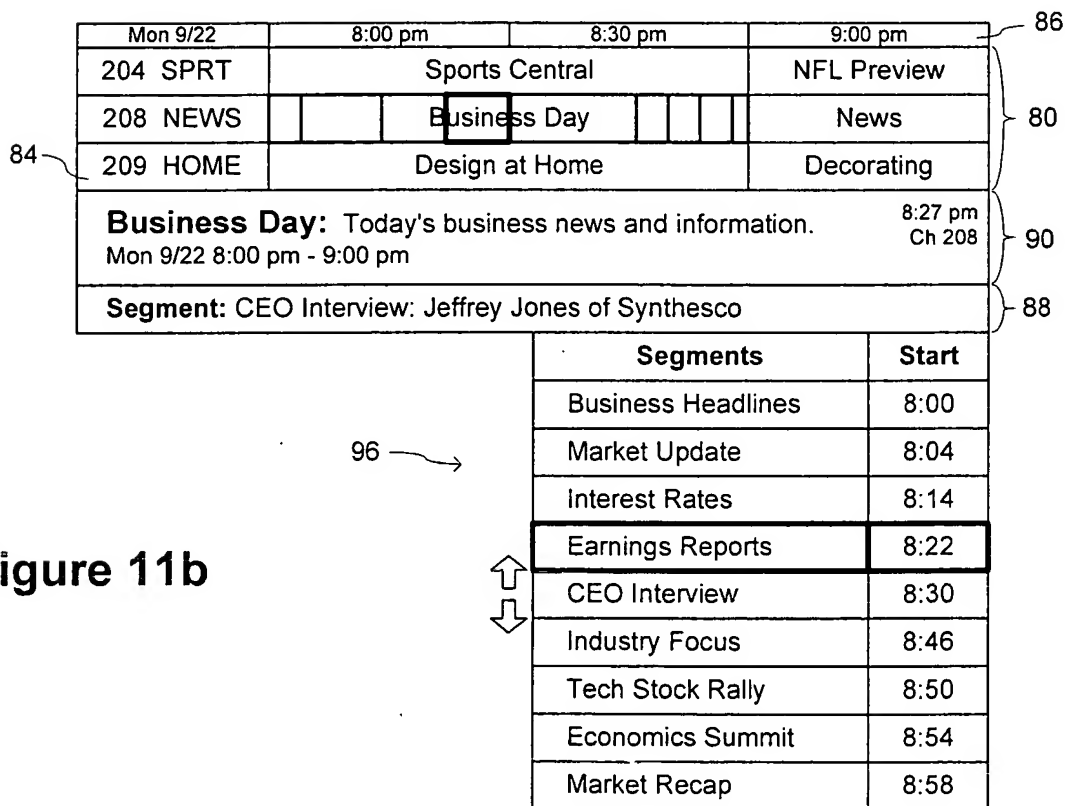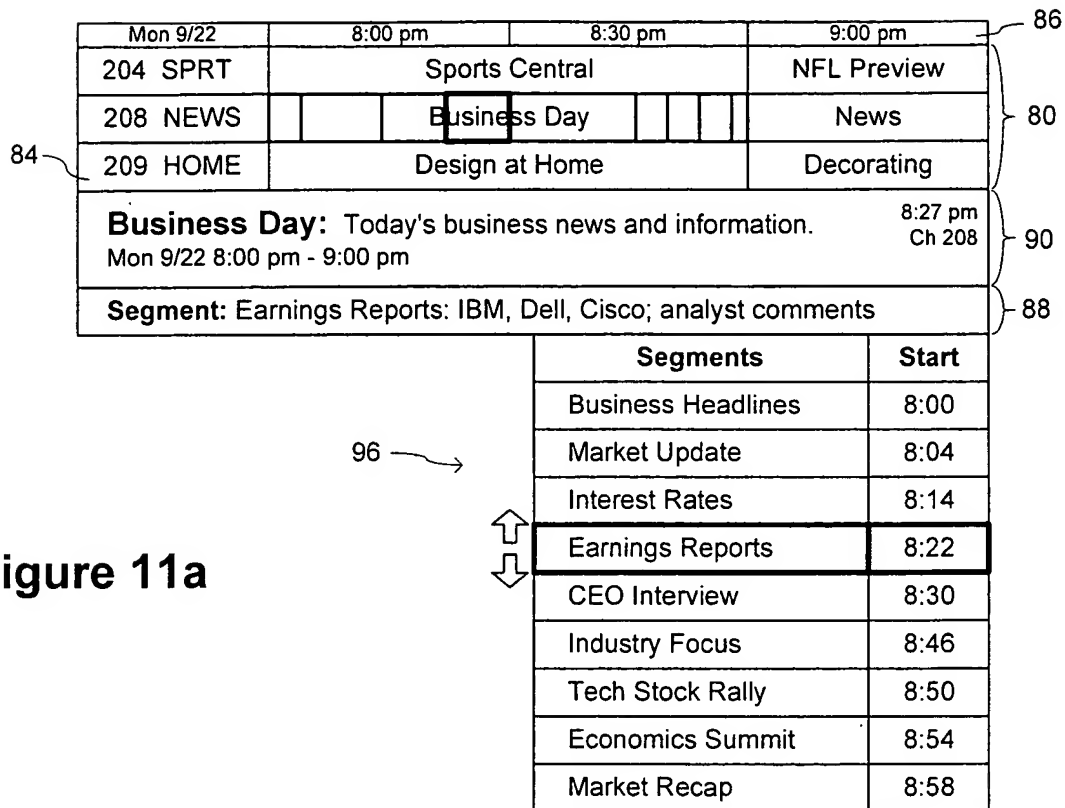| Mon 9/22	8:00 pm	8:30 pm	9:00 pm
204 SPRT	Sports Central		NFL Preview
208 NEWS	Business Day		News
209 HOME	Design at Home		Decorating
243 LA 13	Giants @ Dodgers		Postgame Show
254 LA 24	Business Report	Today in Politics	Roundtable
258 LA 28	Nexus		Natural World
280 LA 50	Auto World	Sound Check	The Movie Critics
288 LA 58	Collector's Hour		Investigation

84
80
82

Figure 10b

SEARCHING FOR PROGRAMS AND·UPDATING VIEWER PREFERENCES
WITH REFERENCE TO PROGRAM SEGMENT CHARACTERISTICS
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86

Mon 9/22	8:00 pm	8:30 pm	9:00 pm
204 SPRT	Sports Central		NFL Preview
208 NEWS	Business Day		News
209 HOME	Design at Home		Decorating

84

80

Business Day: Today's business news and information.
Mon 9/22 8:00 pm - 9:00 pm
8:27 pm
Ch 208

90

Segment: Earnings Reports: IBM, Dell, Cisco; analyst comments

88

96 →

Segments	Start
Business Headlines	8:00
Market Update	8:04
Interest Rates	8:14
Earnings Reports	8:22
CEO Interview	8:30
Industry Focus	8:46
Tech Stock Rally	8:50
Economics Summit	8:54
Market Recap	8:58

Figure 11a

86

Mon 9/22	8:00 pm	8:30 pm	9:00 pm
204 SPRT	Sports Central		NFL Preview
208 NEWS	Business Day		News
209 HOME	Design at Home		Decorating

84

80

Business Day: Today's business news and information.
Mon 9/22 8:00 pm - 9:00 pm
8:27 pm
Ch 208

90

Segment: CEO Interview: Jeffrey Jones of Synthesco

88

96 →

Segments	Start
Business Headlines	8:00
Market Update	8:04
Interest Rates	8:14
Earnings Reports	8:22
CEO Interview	8:30
Industry Focus	8:46
Tech Stock Rally	8:50
Economics Summit	8:54
Market Recap	8:58

Figure 11b

SEARCHING FOR PROGRAMS AND UPDATING VIEWER PREFERENCES
WITH REFERENCE TO PROGRAM SEGMENT CHARACTERISTICS
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User Command

Device Response

Display banner

- Retrieve metadata objects for the current time period and channel
- Assemble and display the banner:
  - form segment fields
  - display cursor in the current segment field
  - display program description in the banner
  - display segment description in the banner

Move cursor

- Display cursor in new segment field
- display segment description of new segment

Select

- Schedule a reminder for the segment on which the cursor is located

Record

- Display option to record whole program or segment only and receive selection
  - if viewer selects record whole program, begin recording and store any buffered portion
  - if viewer selects record segment and segment is current, begin recording
  - if viewer selects record segment and segment is future, schedule recording
  - if viewer selects record segment and segment is buffered, store segment as recorded content

Figure 12a

SEARCHING FOR PROGRAMS AND UPDATING VIEWER PREFERENCES
WITH REFERENCE TO PROGRAM SEGMENT CHARACTERISTICS
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User Command   Device Response

Find more like this

- Retrieve program and segment metadata having categories, keywords, actors or directors in common with a segment on which the cursor is located
- Display information about the retrieved programs and segments

OR

- Display user interface showing categories, keywords, actors and directors of the segment on which the cursor is located
- Receive input specifying which categories, keywords, actors and directors are of interest
- Retrieve program and segment metadata having the specified categories, keywords, actors or directors
- Display information about the retrieved programs and segments

Update preferences

- Update viewer preferences to reflect approval or disapproval of categories, keywords, actors or directors of a segment on which the cursor is located

OR

- Display user interface showing categories, keywords, actors and directors of the segment on which the cursor is located
- Receive input specifying which categories, keywords, actors and directors are approved or disapproved
- Update viewer preferences to reflect approval or disapproval of specified categories, keywords, actors or directors

Figure 12b

SEARCHING FOR PROGRAMS AND UPDATING VIEWER PREFERENCES
WITH REFERENCE TO PROGRAM SEGMENT CHARACTERISTICS
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Figure 13a

106 {

Segments	Start
Business Headlines	8:00
Market Update	8:04
Interest Rates	8:14
Earnings Reports	**8:22**
CEO Interview	8:30
Industry Focus	8:46
Tech Stock Rally	8:50
Economics Summit	8:54
Market Recap	8:58

⇧ ⇩

—108

100

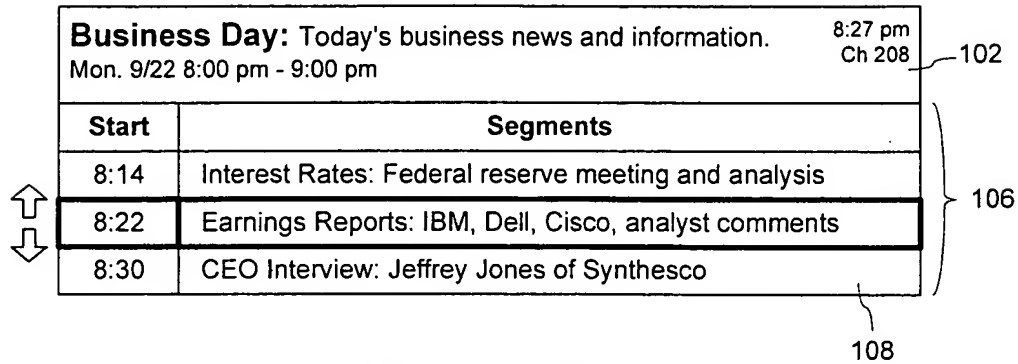| CH: News 208 Date: 09/22/2003 Start: 8:00 pm Duration: 60 min	**Business Day:** Today's business news and information.	8:27 pm Ch 208	—102
	Segment: Earnings Reports: IBM, Dell, Cisco; analyst comments		—104

Figure 13b

106 {

Segments	Start
Business Headlines	8:00
Market Update	8:04
Interest Rates	8:14
Earnings Reports	**8:22**
CEO Interview	8:30
Industry Focus	8:46
Tech Stock Rally	8:50
Economics Summit	8:54
Market Recap	8:58

⇧ ⇩

—108

100

CH: News 208 Date: 09/22/2003 Start: 8:00 pm Duration: 60 min	**Business Day:** Today's business news and information.	8:27 pm Ch 208	—102
	Segment: Industry Focus: Growth returns to the travel industry		—104

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Business Day: Today's business news and information. Mon. 9/22 8:00 pm - 9:00 pm		8:27 pm Ch 208	～102
Start	**Segments**		
8:14	Interest Rates: Federal reserve meeting and analysis		
8:22	Earnings Reports: IBM, Dell, Cisco, analyst comments		106
8:30	CEO Interview: Jeffrey Jones of Synthesco		

108

Figure 14a

Business Day: Today's business news and information. Mon. 9/22 8:00 pm - 9:00 pm		8:27 pm Ch 208	～102
Start	**Segments**		
8:22	Earnings Reports: IBM, Dell, Cisco, analyst comments		
8:30	CEO Interview: Jeffrey Jones of Synthesco		106
8:46	Industry Focus: Growth returns to the travel industry		

108

Figure 14b

SEARCHING FOR PROGRAMS AND UPDATING VIEWER PREFERENCES
WITH REFERENCE TO PROGRAM SEGMENT CHARACTERISTICS
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112 —

Business Day: Today's business news and information.

8:27 pm
Ch 208

8:00 pm   8:22   8:30   9:00 pm

←—110

114 —

Segment: Earnings Reports: IBM, Dell, Cisco; analyst reactions

Figure 15a

112 —

Business Day: Today's business news and information.

8:27 pm
Ch 208

8:00 pm   8:30   8:46   9:00 pm

←—110

114 —

Segment: CEO Interview: Jeffrey Jones of Synthesco

Figure 15b

8:00 pm   8:22   8:30   9:00 pm

←—110

114 —→ Earnings Reports: IBM, Dell, Cisco; analyst reactions

Figure 16a

8:00 pm   8:46 8:50   9:00 pm

←—110

114 —→ Industry Focus: Growth returns to the travel industry

Figure 16b

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WITH REFERENCE TO PROGRAM SEGMENT CHARACTERISTICS
Inventors: Gil Gavriel DUDKIEWICZ et al.
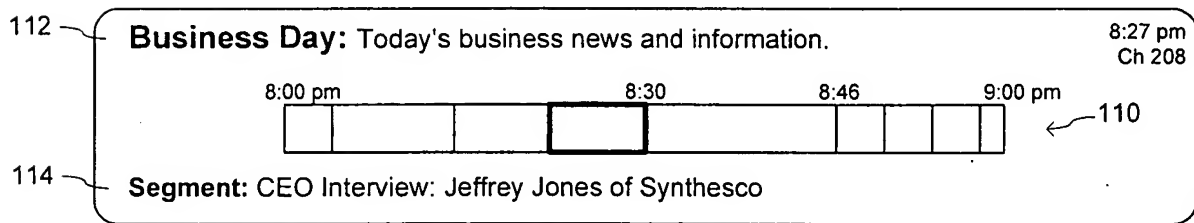Attorney: Ronald Coslick – 051448-0211
FOLEY & LARDNER – (310) 277-2223
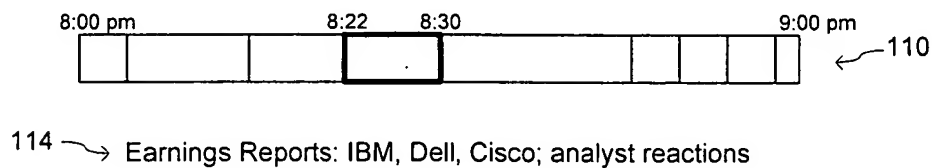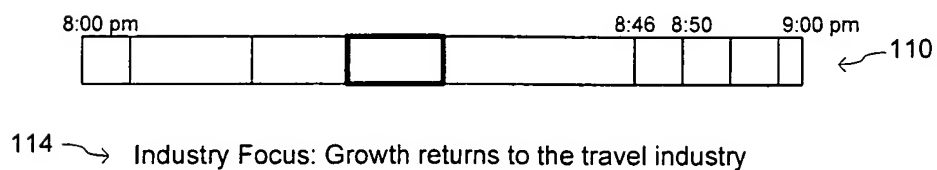Sheet 17 of 19

Business Day: Today's business news and information.
Mon 9/22 8:00 pm - 9:00 pm
8:27 pm
Ch 208

Segment: Earnings Reports: IBM, Dell, Cisco; analyst comments ★★★
Start: 8:22
Duration: 8 min
Earnings
IBM

Mon 9/22	8:00 pm	8:30 pm	9:00 pm
204 SPRT	Sports Central		NFL Preview
208 NEWS	Business Day		News
209 HOME	Design at Home		Decorating
243 LA 13	Giants @ Dodgers		Postgame Show
254 LA 24	Business Report	Today in Politics	Roundtable
258 LA 28	Nexus		Natural World
280 LA 50	Auto World	Sound Check	The Movie Critics
288 LA 58	Collector's Hour		Investigation

Figure 17a

Business Day: Today's business news and information.
Mon 9/22 8:00 pm - 9:00 pm
8:27 pm
Ch 208

Segment: CEO Interview: Jeffrey Jones of Synthesco ★
Start: 8:30
Duration: 16 min
Business

Mon 9/22	8:00 pm	8:30 pm	9:00 pm
204 SPRT	Sports Central		NFL Preview
208 NEWS	Business Day		News
209 HOME	Design at Home		Decorating
243 LA 13	Giants @ Dodgers		Postgame Show
254 LA 24	Business Report	Today in Politics	Roundtable
258 LA 28	Nexus		Natural World
280 LA 50	Auto World	Sound Check	The Movie Critics
288 LA 58	Collector's Hour		Investigation

Figure 17b

SEARCHING FOR PROGRAMS AND UPDATING VIEWER PREFERENCES
WITH REFERENCE TO PROGRAM SEGMENT CHARACTERISTICS
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Segments	Start	Interest
Peace Talks	9:00	
Presidential Campaigns	9:03	
Supreme Court Decision	9:09	
Business	**9:13**	
Sports	9:19	
Entertainment	9:24	
Weather	9:28	

106 {

118 ←

100

CH: News 208 Date: 09/22/2003 Start: 8:00 pm Duration: 60 min	**News:** The day's news in thirty minutes.	9:14 pm Ch 208
	Segment: Business: market recap; tech rally; oil price spike	

102

104

Figure 18

Find more like:
Program: Business Day
Segment: Earnings Reports

124 — | **Find** |

120 ←

Category:

☐ News

☑ Business

☐ Earnings

☑ Technology

Keyword:

122 — ☐ IBM

☑ Dell

☑ Cisco

Figure 19

SEARCHING FOR PROGRAMS AND UPDATING VIEWER PREFERENCES
WITH REFERENCE TO PROGRAM SEGMENT CHARACTERISTICS
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134 — **Approve**   136 — **Disapprove**

←— 130

Category: **Keyword:**

☐ News   132 — ☑ IBM

☐ Business   ☑ Dell

☐ Earnings   ☑ Cisco

☐ Technology

Figure 20a

Categories:

1 2 3 4 5 6 7 8 9 10

←— 130

News

Business   — 138

Earnings

Technology

Keywords:

IBM ☑   Cisco ☑ — 132

Dell ☑   140 — **Update**

Figure 20b